Continuing Education Course #068
Dredging and the Environment - Part 1
Dredging 101

1. The two basic types of dredging are?
- a. Above water and underwater.
- b. Navigation and Beach Nourishment
- c. Hydraulic and Mechanical.
- d. None of the above.

2. Navigation Dredging accomplishes what purpose?
- a. Deepening and existing waterway
- b. Maintaining an existing waterway
- c. Dredging a new waterway
- d. All of the above

3. Capping in dredging refers to?
- a. The cap on the exhaust of the dredge
- b. Topping off a disposal site
- c. Pushing a barge with a tender boat
- d. Placement of sand underwater to cover contaminated sediment

4. The “Jones Act” and “Rivers & Harbors Act” are:
- a. Local regulations regarding Refueling
- b. State Laws regarding maritime transport
- c. Rules of the road for mariners
- d. Federal Laws that apply to Navigable waterways

5. Most Hydraulic Dredges have which of the following components:
- a. Ladder
- b. Cutterhead
- c. Discharge Pipe
- d. All of the above

6. On a State and Federal Dredging Permit – it must be specified weather the work is going to be done with a Mechanical or Hydraulic Dredge?
- a. True
- b. False

7. “Hopper” Dredges usually perform dredging where?
- a. In shallow rivers
- b. Inland Lakes

○ c. Near or in the Ocean
○ d. This is not a type of dredge

8. Portable Dredges are best suited for what kind of project?
○ a. Land Locked water bodies
○ b. Projects with poor access
○ c. Shallow waterways
○ d. All of the above

9. Hydraulic Dredges are best suited for projects that may have buried underwater debris of large rocks.
○ a. True
○ b. False

10. The term “Wheel Wash” refers to what function?
○ a. Washing debris from a cutterhead
○ b. Washing the deck of a barge after a project is completed
○ c. The forces generated by the propeller of a work boat
○ d. None of the above

11. When a material barge is being towed or transported while carrying a significant load of free standing water – what is the biggest potential hazard?
○ a. Rolling over
○ b. Running aground
○ c. Spilling water
○ d. Leaking

12. What is the shallowest waterway that is generally practical for a mechanical dredge and scow to work?
○ a. 20 feet
○ b. 6 feet
○ c. 2 feet
○ d. 50 feet

13. An “Environmental” Clamshell Bucket is specifically used for:
○ a. Reseeding of clams in a wetland habitat
○ b. Mechanical Dredging where water spillage and turbidity are a concern
○ c. Removing clams before a dredging project starts
○ d. None of the above

14. Spillage of dredged materials from a barge while enroute to a rehandling site is usually not a concern as long as the spillage can be shown as being accidental in nature.
○ a. True
○ b. False

15. The biggest advantage of a Hydraulic Dredge is that it can pump silty soils while adding very little water over the in-situ water content.
○ a. True
○ b. False

16. Beach Nourishment and Dune Restoration projects are best performed with what type of Dredge?
○ a. Mechanical Dredge
○ b. Split bottom dump scows

○ c. Hydraulic Dredge
○ d. All of the above

17. The common name for a site used by a Hydraulic Dredge for storage and natural dewatering of silty soils is?
○ a. A DMMS
○ b. A Bottom dump scow
○ c. A Geotube
○ d. None of the above

18. The dewatering process that requires the least amount of space to operate in is?
○ a. Natural Dewatering in a DMMS
○ b. A Geotube Dewatering site
○ c. Mechanical Dewatering
○ d. None of the above

19. When dewatering operations use polymers to accelerate the soil drying process, and the excess water is returned to on open waterway, what is a primary concern in the polymer selection process.
○ a. Cost per pound of polymer
○ b. Potential toxicity of the polymer on marine life
○ c. The dosing rate of polymer
○ d. The time required for the polymer produce a dewatered product

20. What US Army Corps of Engineers Manual covers Hydrographic Survey methods?
○ a. EM 1110-2-1100
○ b. The Shore Protection Manual
○ c. EM 1110-2-1003
○ d. None of the above

21. What present day survey device provides the most reliable measurement of water depth?
○ a. Sounding Disc
○ b. Single Beam Electronic Sounder
○ c. Sounding Pole
○ d. Multibeam Sounder

22. Which method of survey can provide soundings over 100% of the bottom?
○ a. Sounding Disc
○ b. Single Beam Electronic Sounder
○ c. Sounding Pole
○ d. Multibeam Sounder

23. When performing a dredging project the best way to obtain accurate final grades is to provide regular updated survey information to the dredge operator.
○ a. True
○ b. False

24. A Heave-Pitch-Roll sensor is used on a survey vessel to keep track of the boats heading.
○ a. True
○ b. False

25. Multibeam surveys are the least expensive to perform of the survey methods discussed in this course.
○ a. True
○ b. False